

---

First Day Handout  
College Algebra

---

Course	MATH 1314
Semester	Summer 2009
Section	031
Synonym	36442
Days	MW
Time	6:00pm-7:50pm
Room	SMC 504

Instructor	R. Jaster
URL	<a href="http://www.austincc.edu/rjaster">http://www.austincc.edu/rjaster</a>
Email	rjaster@austincc.edu
Office Hours	June 2, 2009 – July 7, 2009: MTWTh 1:40pm-2:10pm in RGC  June 2, 2009 - August 12, 2009: MW 5:30pm - 6:00pm in SMC 504  Other hours by appointment.

### **COURSE DESCRIPTION**

MATH 1314 COLLEGE ALGEBRA (3-3-0). A course designed for students majoring in business, mathematics, science, engineering, or certain engineering-related technical fields. Content includes the real and complex number systems; the study of functions including polynomial, rational, exponential, and logarithmic functions and related equations; inequalities; and systems of linear equations and determinants. Prerequisites: MATD 0390 or satisfactory score on the ACC Assessment Test.

### **PREREQUISITE**

Intermediate Algebra (MATD 0390) or current knowledge of high school algebra as measured by the Assessment Test. Students who have a great deal of difficulty with the Prerequisite Review and have not had Intermediate Algebra or its equivalent recently should consider withdrawing and taking Intermediate Algebra.

### **MATERIALS**

#### **Required**

Textbook *College Algebra through Modeling and Visualization* by Gary Rockswold, 3<sup>rd</sup> ed. (ISBN # 0-321-27908-5). The first two chapters of the text are online at <http://www.austincc.edu/mthdept2/text/> (password [acc1314](#)).

Calculator Students need either a scientific or business calculator (with a log or ln key). If a student cannot purchase one, calculators are available from the learning lab. Graphing calculators are not required, but you will use graphing technology in most sections of the book.

#### **Optional**

Solutions Manual Student's Solutions Manual (ISBN #0-321-28086-5)

### **INSTRUCTIONAL METHODOLOGY**

This course is taught in the classroom primarily as a lecture/discussion course.

### **COURSE RATIONALE**

This course is designed to teach students the functional approach to mathematical relationships that they will need for a business calculus sequence. Other courses, such as MATH 1332, or MATH 1342 are more appropriate to meet a general mathematics requirement. Check with your degree plan as to what math course your college requires.

---

First Day Handout  
College Algebra

---

## COURSE OBJECTIVES

### Functions:

- Use and interpret function notation.
- Find the domain of polynomial, rational, radical, exponential, and logarithmic functions.
- Use composition of functions.
- Find inverses of functions algebraically (where possible), graphically, and numerically.
- Interpret the graphs of functions.

### Graphing functions:

- Recognize the equations and sketch the graphs of the following: Lines,  $x^2$ ,  $x^3$ ,  $x^{1/3}$ ,  $x^{1/2}$ ,  $1/x$ ,  $1/x^2$ ,  $|x|$ , semi-circles, circles, factored polynomials of degree 3 or more,  $a^x$ ,  $\log_a x$ , and their linear transformations.
- Find inverses of functions graphically.
- Find and sketch asymptotes of rational, exponential, and logarithmic functions.
- Describe the end behavior of all the above functions.
- Determine when it is appropriate to use a calculator or graphing technology.
- Approximate zeros of a function.

### Symbolic Adeptness:

- Solve equations including quadratic, rational, literal, quadratic types, exponential, logarithmic, and equations with radicals.
- Solve polynomial and rational inequalities.
- Solve non-linear systems of equations.
- Use long division and the Fundamental Theorem of Algebra to find zeros of polynomials of degree three or more.
- Simplify fractions with terms having negative exponents.
- Rationalize numerators as well as denominators.
- Simplify complex fractions.
- Use completing the square to find the vertices of parabolas and centers and radii of circles.
- Evaluate exponential and logarithmic expressions with calculators.
- Use the rules for logarithms.
- Solve systems of linear equations using Gauss-Jordan Elimination and Cramer's Rule.

### Applications

- Recognize and use applications of linear functions including linear models.
- Recognize and use quadratic applications, including falling object, maximum, and minimum problems.
- Recognize and use rational expression applications such as animal populations in parks.
- Recognize and use exponential and logarithmic applications, including exponential growth and decay, doubling time, and half-life.
- Recognize and use applications of systems of linear equations.

---

First Day Handout  
College Algebra

---

**COURSE EVALUATION / GRADING SCHEME**

Semester Grade	Weighted Average
A	90-100
B	80- 89
C	70- 79
D	60- 69
F	0- 59

Each student's semester grade is determined by a weighted average of interim exam scores, homework scores, and the final exam score.

**Exams**

There will be four interim exams and a required comprehensive final exam. The highest three interim exams will each count 18% toward the semester grade. The final exam will count 26% toward the semester grade. Exams must be completed in pencil.

Applications (recognizing and using) are an important part of college algebra. Exams will include application/word problems.

**Homework**

Homework assignments are listed on a separate handout. The homework average will count 20% toward the semester grade. Solution details must be shown in the homework to receive credit. Homework must be completed neatly in pencil on standard size loose-leaf notebook paper.

Homework will be collected at the beginning of class on the due date. One randomly chosen problem from each section will be graded. The lowest two homework grades will be dropped.

**LATE WORK POLICY**

No late work will be accepted.

**MISSED EXAM POLICY**

The lowest interim exam grade is dropped. No make-up exams are given.

**CLASS PARTICIPATION EXPECTATIONS**

Each student is expected to participate in all course activities.

**ATTENDANCE POLICY**

Attendance is required in this course, however, students will not be withdrawn by the instructor for lack of attendance. If you stop attending you most likely will receive an F if you do not drop the class.

**WITHDRAWAL POLICY**

It is the student's responsibility to initiate all withdrawals in this course. The instructor does not initiate withdrawals for unsatisfactory performance. After the final withdrawal date of July 30, 2009 neither the student nor the instructor may initiate a withdrawal.

**REINSTATEMENT POLICY**

If a student is withdrawn from the course, that student will not be reinstated.

---

First Day Handout  
College Algebra

---

**INCOMPLETE GRADE POLICY**

Incomplete grades (I) will be given only in very rare circumstances. Generally, to receive a grade of "I", a student must have taken all examinations, be passing, and after the last date to withdraw, have a personal tragedy occur which prevents course completion.

**COURSE-SPECIFIC SUPPORT SERVICES**

ACC main campuses have Learning Labs, which offer free first-come, first-serve tutoring in mathematics courses. The locations, contact information and hours of availability of the Learning Labs are posted at: <http://www.austincc.edu/tutor>.

Sections of MATH 0153(1-0-2) are sometimes offered. This lab class is designed for students currently registered in College Algebra, MATH 1314. It offers individualized and group setting to provide additional practice and explanation. This course is not for college-level credit and is repeatable up to two credit hours. Students should check the course schedule for possible offerings of the lab class.

**ELECTRONIC DEVICES**

Cell phones, iPods, pagers, laptop computers, or any device that may distract from the class should be silenced before entering the classroom and may not be on the desk during class or exams.

## **COLLEGE POLICY STATEMENTS**

### **Statement on Students with Disabilities**

Each ACC campus offers support services for students with documented physical or psychological disabilities. Students with disabilities must request reasonable accommodations through the Office of Students with Disabilities on the campus where they expect to take the majority of their classes. Students are encouraged to do this three weeks before the start of the semester. Students who are requesting accommodation must provide the instructor with a letter of accommodation from the Office of Students with Disabilities (OSD) at the beginning of the semester. Accommodations can only be made after the instructor receives the letter of accommodation from OSD.

### **Statement on Scholastic Dishonesty**

Acts prohibited by the college for which discipline may be administered include scholastic dishonesty, including but not limited to, cheating on an exam or quiz, plagiarizing, and unauthorized collaboration with another in preparing outside work. Academic work submitted by students shall be the result of their thought, work, research or self-expression. Academic work is defined as, but not limited to, tests, quizzes, whether taken electronically or on paper; projects, either individual or group; classroom presentations; and homework.

### **Statement on Scholastic Dishonesty Penalty**

Students who violate the rules concerning scholastic dishonesty will be assessed an academic penalty that the instructor determines is in keeping with the seriousness of the offense. This academic penalty may range from a grade penalty on the particular assignment to an overall grade penalty in the course, including possibly an F in the course. ACC's policy can be found in the Student Handbook under Policies and Procedures or on the web at: <http://www.austincc.edu/handbook>.

### **Statement on Academic Freedom**

Institutions of higher education are conducted for the common good. The common good depends upon a search for truth and upon free expression. In this course the professor and students shall strive to protect free inquiry and the open exchange of facts, ideas, and opinions. Students are free to take exception to views offered in this course and to reserve judgment about debatable issues. Grades will not be affected by personal views. With this freedom comes the responsibility of civility and a respect for a diversity of ideas and opinions. This means that students must take turns speaking, listen to others speak without interruption, and refrain from name-calling or other personal attacks.

### **Statement on Student Discipline**

Classroom behavior should support and enhance learning. Behavior that disrupts the learning process will be dealt with appropriately, which may include having the student leave class for the rest of that day. In serious cases, disruptive behavior may lead to a student being withdrawn from the class. ACC's policy on student discipline can be found in the Student Handbook under Policies and Procedures or on the web at: <http://www.austincc.edu/handbook>.